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10/540,527

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Akihisa Inoue

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01/26/2009

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EXAMINER

SHEEHAN, JOHN P

ART UNIT

PAPER NUMBER

1793

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,527	<b>Applicant(s)</b> INOUE ET AL.	
	<b>Examiner</b> John P. Sheehan	<b>Art Unit</b> 1793	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/04/2006 and 06/24/2005</u> .                               | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group I claims 1 and 3 in the reply filed on November 7, 2008 is acknowledged. The traversal is on the ground(s) that the "Group I and Group II inventions satisfy the combination of categories provided in 37 CFR § 1.475(b) and satisfy the unity of invention under 37 CFR § 1.475". This is not found persuasive. In making this argument, it appears that applicants are relying on the following in 37 CFR § 1.475(b):

(b) An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:

(1) A product and a process specially adapted for the manufacture of said product; (emphasis added by the Examiner)

Claim 1 of the Group I product recites the following product limitations;

"a crystallization temperature (Tx) of 770 to 800 K; and a liquidus temperature (TI) of 1220 to 1300 K,

wherein the Fe-based sintered alloy soft magnetic material has metallic glass phase of high-density with a relative density of 99.0 % or more, a magnetic permeability of 3900 ( $\mu_{\max}$ ) or more, a coercive force (Hc) of 19 (A/m) or less and a specific resistance of 1.6  $\mu\Omega\text{m}$  or more in an as-sintered state,

wherein the Fe-based sintered alloy soft magnetic material has a temperature interval of a supercooled liquid region ( $\Delta T_x$ ) of 25 K or more, as expressed by a formula:  $\Delta T_x = T_x - T_g$ , wherein  $T_x$  is a crystallization temperature, and  $T_g$  is a glass transition temperature; and a reduced glass transition temperature of 0.59 or more, as expressed by a formula:

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T<sub>g</sub>/T<sub>l</sub>, wherein T<sub>g</sub> is a glass transition temperature, and T<sub>l</sub> is a liquidus temperature”.

However, the Group II process does not require the product of the claimed process to possess the above recited limitations required by the Group I product, therefore the process of the Group II invention is not considered to be a process “specially adapted for the manufacture of said product” (emphasis added by the Examiner).

The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement filed June 24, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of Reference No. 18 that is not in English. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Interpretation***

4. It is noted that the claims recite the open transitional term, “comprising” (Claim 1, line 2).

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“The transitional term ‘comprising’, which is synonymous with ‘including,’ ‘containing,’ or ‘characterized by,’ is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *>Mars Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1376, 71 USPQ2d 1837, 1843 (Fed. Cir. 2004)”

See MPEP 2111.03. In view of the definition of the open terminology, “comprising”, applicants claims are considered to be open to any additional elements and steps.

5. In lines 3 to 6 claim 1 recites:

“a Fe-based metallic glass alloy prepared by sintering, in a temperature range of 573 K to the crystallization temperature (Tx), spherical particles of Fe-based metallic glass alloy prepared by an atomizing process, the spherical particles having a particle size of 30 to 125  $\mu\text{m}$ ,”

These claim limitations recite how the claimed product is made and the raw material from which the claimed product is made and how said material is made. In view of the fact that none of these limitations are directed specifically to the claimed product, but rather how the product is made and from what the product is made, it is the Examiner’s position that these limitations do not necessarily limit the claimed product.

### ***Claim Rejections - 35 USC § 102/103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshida et al. (Yoshida '308, Japanese Patent Document No. 2000-345308, cited in the IDs submitted June 24, 2005).

Yoshida '308 teaches a sintered metallic glass alloy formed by sintering planar metallic glass particles (Abstract). Yoshida '308 teaches a metallic glass Fe-Al-Ga-P-C-B-Si alloy composition wherein the Fe, Ga, P, C, B and Si proportions overlap the Fe, Ga, P, C, B and Si proportions recited in the applicants' claims (page 2, paragraph (8)). Yoshida '308 also teaches specific examples of alloy compositions wherein the Fe, Ga, P, C, B and Si proportions are encompassed by the Fe, Ga, P, C, B and Si proportions recited in the applicants' claims (see Figures 9, 10 and 14 to 25). Yoshida '308 appears to teach  $\Delta T$  values that overlap the  $\Delta T$  values recited in the instant claims (paragraph [0010]).

The claims and Yoshida '308 differ in that:

(1) Yoshida teaches the use of planar particles rather than spherical particles as recited in the instant claims;

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(2) Yoshida '308 alloys contain Al; and

(3) Yoshida '308 does not teach all of the alloy properties recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because for the reasons set forth above under the heading, "Claim Interpretation" the claim limitations;

sintering, in a temperature range of 573 K to the crystallization temperature (Tx), spherical particles of Fe-based metallic glass alloy prepared by an atomizing process, the spherical particles having a particle size of 30 to 125  $\mu\text{m}$ ;"

do not necessarily limit the actual claimed product and thus do not distinguish the claimed product from the alloy product taught by Yoshida.

Again, as explained above under the heading, "Claim Interpretation", the use of the open transitional term, "comprising" in claims 1 and 3 does not preclude the presence of Al as taught by Yoshida '308.

Finally, the specific example alloys taught by Yoshida '308 have compositions that are encompassed by the instant claims. In view of this, Yoshida '308's alloys would be expected to possess all the same properties as recited in the instant claims, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can

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be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977).” see MPEP 2112.01.

9. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Baolong et al. (Baolong, Bulk Glass Fe-Ga-P-C-B -Si Alloys with High Glass-Forming Ability, High Saturation Magnetization and Good Soft Magnetic Properties, cited in the IDS submitted August 4, 2006).

Baolong teaches specific examples of Fe- Ga-P-C-B-Si glassy alloy having compositions that are encompassed by the alloy compositions recited in the instant claims (Figures 1 to 4, 6 and 7). Baolong teaches  $\Delta T$  values that overlap the instant claims (page 1236, the first full paragraph).

The claims and Baolong differ in that:

- (1) Baolong does not teach the use of atomized spherical particles and sintering to make the disclosed Fe-Ga-P-C-B-Si alloys;
- (2) Baolong does not teach all of the alloy properties recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because for the reasons set forth above under the heading, “Claim Interpretation” the claim limitations;

sintering, in a temperature range of 573 K to the crystallization temperature ( $T_x$ ), spherical particles of Fe-based metallic glass alloy prepared by an atomizing process, the spherical particles having a particle size of 30 to 125  $\mu\text{m}$ ;



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do not necessarily limit the actual claimed product and thus do not distinguish the claimed product from the alloy product taught by Baolong.

Finally, the specific example alloys taught by Baolong have compositions that are encompassed by the instant claims. In view of this, Baolong's alloys would be expected to possess all the same properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

“Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).” see MPEP 2112.01.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/  
Primary Examiner, Art Unit 1793

JPS